

# Heartbeat Installation

## Prerequisites:

*libnet-1.1.4-3.el5* (Source: <http://rpm.pbone.net>, pending addition to sl-base repos)  
*libtool-ltdl* (Source: sl-base)  
*PyXML* (Source: sl-base)

Install heartbeat (Source: <http://rpm.pbone.net> pending addition to sl-base repos)

```
rpm -i heartbeat-pils-2.1.4-9.el5
rpm -i heartbeat-stonith-2.1.4-9.el5
rpm -i heartbeat-debuginfo-2.1.4-9.el5
rpm -i heartbeat-2.1.4-9.el5
```

## 1. Configure Heartbeat. Modify the following three files:

*/etc/ha.d/ha.cf* – This file must be readable by root only. This file is identical on both nodes –minus differences of peer nodes (each node points to the other's public IP address).

```
logfacility local0
#logfile /var/log/ha-log
#debugfile /var/log/ha-debug
#use_logd on
udpport 694
keepalive 1 # 1 second
deadtime 10
initdead 80
ucast eth0 <IP address of the peer node in the cluster>
node <Primary node FQDN> <Secondary node FQDN>
crm no
auto_failback no
```

*/etc/ha.d/authkeys* – This file must be readable by root only  
Run the following script to generate the authfile

```
cat <<- !AUTH > /etc/ha.d/authkeys
# Automatically generated authkeys file
auth 1
1 sha1 `dd if=/dev/urandom count=4 2>/dev/null | md5sum | cut -c1-32`
!AUTH
```

Make sure you migrate this file to all of the nodes within this cluster.

*/etc/ha.d/haresources*: Of the numerous possible configurations, we are currently using three configurations. First

*fgt1x5.fnal.gov drbdisk::disk0 Filesystem::/dev/drbd0::/var/myproxy::ext3 131.225.80.233*

Hostname	Resource	Resource Name	Type of Resource	device	directory	FS Type	Service IP
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Hostname: Designates the hostname where the service will primarily reside.

Resource: The type of resource that is heartbeat recognizes. Must have a correlating file in /etc/ha.d/resource.d

Resource Name: Actual name of the resource as defined by drbd in this instance

Type of Resource: The type of resource actually used

Device: The device used by the resource

Directory: Mount point of the resource

Filesystem Type: Type of filesystem

Service IP: IP address of the resource. This address follows the resource wherever it is running.

Sample implementation of a service and a service IP

gr11x2.fnal.gov	131.225.107.100	hb-gratia
Hostname	Service IP	Service Name

Hostname: Designates the hostname where the service will primarily reside.

Service IP: IP address of the resource. This address follows the resource wherever it is running.

Service Name: The name of the service that heartbeat will handle. (NOTE: The startup script must live in either /etc/ha.d/resource.d or /etc/init.d)

Sample configuration using a service IP only

gr11x5.fnal.gov	IPAddr::131.225.107.79/24
Hostname	Type of Resource Service IP

Hostname: Designates the hostname where the service will primarily reside.

Type of Resource: The type of resource controlled by heartbeat (NOTE: The types of resources are also determined by the scripts located in /etc/ha.d/resource.d)

Service IP: IP address of the resource. This address follows the resource wherever it is running.

2. Configure heartbeat service to startup on boot.  
# chkconfig heartbeat on
- 3 Start the heartbeat service  
# service heartbeat start